CLAIMS

1. A method of transmitting a digital sequence of video signals which have been encoded using a compression algorithm such that the number of coded bits per frame is not constant, comprising:

(a) dividing the sequence into segments, wherein the first segment is a portion at the beginning of the sequence which has an average number of coded bits per frame which is greater than or equal to the average number of coded bits per frame of any shorter such portion, and wherein each succeeding segment is a portion immediately following the preceding segment which has an average number of coded bits per frame which is greater than or equal to the average number of coded bits per frame of any shorter such portion;

(b) determining a bit rate for each segment;

(c) transmitting the signals at the determined bit rates.

2. A method of transmitting a digital sequence of video signals which have been encoded using a compression algorithm such that the number of coded bits per frame is not constant, wherein the source video had been coded into a first sequence and a second sequence having respective different compression rates, comprising:

(a) analysing at least one of the streams to divide it into segments;

(b) selecting a switching point in the vicinity of an intersegment transition identified at step (a);

(c) if the first sequence was not analysed in step (a), analysing the first sequence to divide it into segments;

(d) determining a bit rate for the or each segment of the first sequence up to the switching point;

(e) transmitting the signal of the first sequence up to the switching point at the determined bit rate(s);

(f) analysing a modified sequence which includes the second sequence from the switching point onwards, to divide it into segments;

(g) determining a bit rate for segments of the modified sequence;

(h) transmitting the signals of the modified sequence at the determined bit rate(s);

wherein said analyses are each performed by dividing the relevant sequence into segments, wherein the first segment is a portion at the beginning of the sequence which has an average number of coded bits per frame which is greater than or equal to the average number of coded bits per frame

of any shorter such portion, and wherein each succeeding segment is a portion immediately following the preceding segment which has an average number of coded bits per frame which is greater than or equal to the average number of coded bits per frame of any shorter such portion.

3. A method according to claim 2 in which, in step (b), the switching point is selected to be in the vicinity of an intersegment transition of the first sequence.

4. A method according to claim 2 in which, in step (b), the switching point is selected to be in the vicinity of an intersegment transition of the second sequence.

5. A method according to claim 2 in which, in step (a), both the first and the second sequence are analysed, and in step (b), the switching point is selected to be in the vicinity of intersegment transitions of both the first and second sequences, or in the event that the transitions do not coincide, in the vicinity of the earlier of the two transitions.

6. A method according to claim 2 in which, in step (a), both the first and the second sequence are analysed, and in step (b), the switching point is selected to be in the vicinity of intersegment transitions of both the first and second sequences, or in the event that the transitions do not coincide, in the vicinity of the later of the two transitions.

7. A method according to any one of claims 2 to 6 in which the switching point is selected to occur within four frames of the relevant transition.

8. A method according to claim 7 in which the switching point is selected to coincide with the relevant transition.

9. A method according to any one of claims 2 to 8 in which the first sequence is encoded at a higher compression rate than the second sequence.

10. A method according to claim 9 in which the first sequence is encoded using a coarser quantisation than the second sequence.

11. A method according to any one of claims 2 to 10 in which the sequences are encoded using inter-frame coding, and including generating at the switching point a transitional sequence consisting of or commencing with a frame of the second sequence encoded using a decoded frame of the first sequence as predictor, and in which the modified sequence comprises the transition sequence followed by frames of the second sequence.

12. A method according to any one of the preceding claims wherein the first segment of the or a sequence is that portion at the beginning of the sequence which has an average number of coded bits per frame which is greater than or equal to the average number of coded bits per frame of any possible such portion, and wherein each succeeding segment is that portion immediately following the preceding segment which has an average number of coded bits per frame which is greater than or equal to the average number of coded bits per frame of any possible such portion.

13. A method according to any one of the preceding claims wherein the first segment of the or a sequence is that portion at the beginning of the sequence which has an average number of coded bits per frame which is greater than or equal to the average number of coded bits per frame of any possible such portion not exceeding a maximum predetermined length, and wherein each succeeding segment is that portion immediately following the preceding segment which has an average number of coded bits per frame which is greater than or equal to the average number of coded bits per frame of any possible such portion not exceeding said maximum predetermined length.

14. A method according to any one of the preceding claims in which the bit rate determined for each of at least the later segments of the or a sequence is a number of bits per frame period equal to the average coded bits per frame for that segment.

15. A method according to any one of claims 1 to 13 in which the bit rate determined for each of at least the later segments of the or a sequence is a number of bits per frame period equal to the lowest one of a set of permitted bit rates that is greater than or equal to a nominal rate for that segment, said nominal rate being the average coded bits per frame for that segment less any reduction permitted as a consequence of the determined bit rate for the preceding sequence being in excess of the nominal rate for that preceding segment.

16. A method according to any one of claims 1 to 13 in which the bit rate determined for each of at least the later segments of the or a sequence is a number of bits per frame period equal to the highest one of a set of permitted bit rates that is less than or equal to a nominal rate for that segment, said nominal rate being the average coded bits per frame for that segment plus any increase necessitated as a consequence of the determined bit rate for the following sequence being less than the nominal rate for that preceding segment.

17. A method according to claim 12 in which the bit rate determined for each of at least the later segments of the or a sequence is a number of bits per frame period equal to the larger of:
(i) the lowest one of a set of permitted bit rates that is greater than or equal to a nominal rate for that segment, said nominal rate being the average coded bits per frame for that segment less any reduction permitted as a consequence of the determined bit rate for the preceding sequence being in excess of the nominal rate for that preceding segment; and
(ii) the lowest one of the set of permitted bit rates that is greater than or equal to the average coded bits per frame for the following segment.

18. A method according to claim 12 in which the bit rate determined for each of at least the later segments of the or a sequence is a number of bits per frame period equal to the lower of:
(i) the highest one of a set of permitted bit rates that is less than or equal to a nominal rate for that segment, said nominal rate being the average coded bits per frame for that segment plus any increase necessitated as a consequence of the determined bit rate for the following sequence being less than the nominal rate for that preceding segment; and
(ii) the highest one of the set of permitted bit rates that is less than or equal to the average coded bits per frame for the preceding segment.

19. A method according to any one of the preceding claims, including transmitting to a telecommunications network commands requesting reservation of said determined bit rates.